

**CLAIMS INCORPORATING THE PRESENT AMENDMENT**

The following is a complete set of claims, replacing all prior versions and listings of claims in this application.

**WHAT IS CLAIMED IS:**

1 **Claim 1 (currently amended):** A method for manufacturing a pre-cast polyacrylamide slab gel  
2 for use in slab electrophoresis, said method comprising:

3 (a) placing a gel-forming liquid mixture inside a gel enclosure defined by a pair  
4 of chemically inert, transparent plates separated from each other by fixed distance, said  
5 gel-forming mixture comprising an acrylamide monomer, a crosslinking agent, a buffer,  
6 and a nonionic amphiphilic polymer, in aqueous solution; ~~and~~

7 (b) polymerizing said gel-forming mixture into a gel; and

8 (c) storing said gel for at least 5 days prior to use in slab electrophoresis.

1 **Claim 2 (original):** A method in accordance with claim 1 in which said nonionic amphiphilic  
2 polymer has a molecular weight of from about 100,000 to about 8,000,000.

1 **Claim 3 (original):** A method in accordance with claim 1 in which said nonionic amphiphilic  
2 polymer has a molecular weight of from about 100,000 to about 5,000,000.

1 **Claim 4 (original):** A method in accordance with claim 1 in which said nonionic amphiphilic  
2 polymer has a molecular weight of from about 100,000 to about 1,000,000.

1 **Claim 5 (original):** A method in accordance with claim 1 in which said nonionic amphiphilic  
2 polymer has a molecular weight of about 100,000 or less.

1 **Claim 6 (original):** A method in accordance with claim 1 in which said nonionic amphiphilic  
2 polymer has a molecular weight of about 20,000 or less.

1 **Claim 7 (original):** A method in accordance with claim 1 in which said nonionic amphiphilic  
2 polymer is a member selected from the group consisting of poly(vinyl alcohol), agarose,

3 poly(vinyl pyrrolidone), poly(ethylene glycol), poly(ethylene oxide), poly(propylene glycol),  
4 poly(propylene glycol)/ poly(ethylene glycol) copolymers, and linear polyacrylamide.

1 **Claim 8 (original):** A method in accordance with claim 1 in which said nonionic amphiphilic  
2 polymer is poly(vinyl alcohol).

1 **Claim 9 (original):** A method in accordance with claim 8 in which said poly(vinyl alcohol) has  
2 a molecular weight of from about 200 to about 20,000.

1 **Claim 10 (original):** A method in accordance with claim 8 in which said poly(vinyl alcohol)  
2 comprises from about 0.5% to about 5% by weight of said aqueous solution.

1 **Claim 11 (original):** A method in accordance with claim 1 in which said nonionic amphiphilic  
2 polymer is poly(ethylene glycol) or poly(ethylene oxide).

1 **Claim 12 (original):** A method in accordance with claim 11 in which said poly(ethylene glycol)  
2 or poly(ethylene oxide) has a molecular weight of from about 100,000 to about 1,000,000.

1 **Claim 13 (original):** A method in accordance with claim 11 in which said poly(ethylene glycol)  
2 or poly(ethylene oxide) comprises from about 0.01% to about 0.3% by weight of said aqueous  
3 solution.

1 **Claim 14 (original):** A method in accordance with claim 1 in which said plates are glass.

1 **Claim 15 (original):** A method in accordance with claim 1 in which said plates are plastic.

1 **Claim 16 (original):** A method in accordance with claim 15 in which said plastic is a member  
2 selected from the group consisting of polycarbonate, polystyrene, acrylic polymers, styrene-  
3 acrylonitrile copolymer, acrylonitrile polymers, poly(ethylene terephthalate), poly(ethylene  
4 terephthalate glycolate), and poly(ethylene naphthalenedicarboxylate).

1 **Claim 17 (original):** A method in accordance with claim 15 in which said plastic is a  
2 polystyrene-acrylonitrile blend.

1 **Claim 18 (currently amended):** A pre-cast polyacrylamide slab gel for use in slab gel  
2 electrophoresis, said pre-cast slab gel comprising:  
3 a pair of chemically inert, transparent plates, and  
4 a polyacrylamide gel cast between said plates, said polyacrylamide gel formed by  
5 polymerization of an acrylamide monomer and a crosslinking agent, said polymerization  
6 having been performed in an aqueous solution comprising said acrylamide monomer, said  
7 crosslinking agent, a buffer, and a nonionic amphiphilic polymer, and said gel thus  
8 formed having been stored between said plates for at least 5 days prior to use in slab gel  
9 electrophoresis.

1 **Claim 19 (original):** A pre-cast polyacrylamide slab gel in accordance with claim 18 in which  
2 said nonionic amphiphilic polymer has a molecular weight of from about 100,000 to about  
3 8,000,000.

1 **Claim 20 (original):** A pre-cast polyacrylamide slab gel in accordance with claim 18 in which  
2 said nonionic amphiphilic polymer has a molecular weight of from about 100,000 to about  
3 5,000,000.

1 **Claim 21 (original):** A pre-cast polyacrylamide slab gel in accordance with claim 18 in which  
2 said nonionic amphiphilic polymer has a molecular weight of from about 100,000 to about  
3 1,000,000.

1 **Claim 22 (original):** A pre-cast polyacrylamide slab gel in accordance with claim 18 in which  
2 said nonionic amphiphilic polymer has a molecular weight of about 20,000 or less.

1 **Claim 23 (original):** A pre-cast polyacrylamide slab gel in accordance with claim 18 in which  
2 said nonionic amphiphilic polymer is a member selected from the group consisting of poly(vinyl  
3 alcohol), agarose, poly(vinyl pyrrolidone), poly(ethylene glycol), poly(ethylene oxide),  
4 poly(propylene glycol), poly(propylene glycol)/ poly(ethylene glycol) copolymers, and linear  
5 polyacrylamide.

1 **Claim 24 (original):** A pre-cast polyacrylamide slab gel in accordance with claim 18 in which  
2 said nonionic amphiphilic polymer is poly(vinyl alcohol).

1 **Claim 25 (original):** A pre-cast polyacrylamide slab gel in accordance with claim 18 in which  
2 poly(vinyl alcohol) has a molecular weight of from about 200 to about 20,000.

1 **Claim 26 (original):** A pre-cast polyacrylamide slab gel in accordance with claim 24 in which  
2 said poly(vinyl alcohol) comprises from about 0.5% to about 5% by weight of said aqueous  
3 solution.

1 **Claim 27 (original):** A pre-cast polyacrylamide slab gel in accordance with claim 18 in which  
2 said nonionic amphiphilic polymer is poly(ethylene glycol) or poly(ethylene oxide).

1 **Claim 28 (original):** A pre-cast polyacrylamide slab gel in accordance with claim 27 in which  
2 said poly(ethylene glycol) or poly(ethylene oxide) has a molecular weight of from about 100,000  
3 to about 1,000,000.

1 **Claim 29 (original):** A pre-cast polyacrylamide slab gel in accordance with claim 27 in which  
2 said poly(ethylene glycol) or poly(ethylene oxide) comprises from about 0.01% to about 0.3% by  
3 weight of said aqueous solution.

1 **Claim 30 (original):** A pre-cast polyacrylamide slab gel in accordance with claim 18 in which  
2 said plates are glass.

1 **Claim 31 (original):** A pre-cast polyacrylamide slab gel in accordance with claim 18 in which  
2 said plates are plastic.

1 **Claim 32 (original):** A pre-cast polyacrylamide slab gel in accordance with claim 31 in which  
2 said plastic is a member selected from the group consisting of polycarbonate, polystyrene,  
3 acrylic polymers, styrene-acrylonitrile copolymer, acrylonitrile polymers, poly(ethylene

4 terephthalate), poly(ethylene terephthalate glycolate), and poly(ethylene  
5 naphthalenedicarboxylate).

1 **Claim 33 (original):** A pre-cast polyacrylamide slab gel in accordance with claim 31 in which  
2 said plastic is a polystyrene-acrylonitrile blend.